Interdisciplinary laboratories

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The ARPA spokesman said that in the near term the transfer of IDL funds will mean a corresponding dent in the Defense Department's materials budget. Recently the overall materials-science and engineering program at DOD has amounted to about $100 million. Over the last couple of years the materials-science program has shown a changing trend from basic to more applied research. It is expected that the trend will continue.

Todd said that a reasonable case can be made that the total level of effort in materials research in the United States should not be reduced, even if there is no longer a military requirement. "Therefore we are trying to present a case for the Foundation maintaining the total national support of the materials-science area by in effect compensating for the ARPA withdrawal." Meanwhile, by agreement with OST, NSF is preparing for a round of site visits, to conduct its own review and evaluation of the IDL programs. NSF has established an internal study group, headed by William Wright (who is head of the mathematical and physical sciences division) to do the review and evaluation. One thing to be decided is how the IDL's could be treated administratively. In addition the NSF group will be assisted by outside consultants.

"Would you consider dropping a particular laboratory?" we asked Todd. "We'd drop our own mothers-in-law if we didn't like the science," he said. NSF takes the position that it has to do its own review and evaluation of anything it considers picking up after another agency has dropped it. However Todd assumes that the IDL investigators would have the same mixture of quality as NSF presently has in its own research program.

It is of course difficult to define just what proportion of IDL research is physics, particularly because the whole concept of interdisciplinary research is alien to singling out physics as such. However, the proportion is between 30 and 50%, according to Wright. The present NSF materials-science effort is $11.6 million; so if the proposed transfer occurs, NSF would roughly double its support of materials research.

The concept of interdisciplinary laboratories dates back to John von Neumann at the AEC. By the time the laboratories were established in 1960, it was ARPA who actually took on their support. In the materials-science laboratories that were established, interdisciplinary teams of physicists, chemists, metallurgists, crystallographers and engineers join in basic research.

In 1969 the IDL program received 35% of its support from ARPA, 17% from the rest of DOD, 26% from other government agencies and 22% from industry and university sources. The IDL program supported in that year 2400 graduate students and 580 faculty members, who turned out about 350 PhD's each year. ARPA supported 1100 projects, involving the work of 600 graduate students and 250 faculty members.

The IDL's are located at Brown University, Cornell University, University of Chicago, Harvard University, University of Illinois, University of Maryland, Massachusetts Institute of Technology, Northwestern University, University of North Carolina, University of Pennsylvania, Purdue University and Stanford University. —GBL

in brief

The American Vacuum Society is offering two scholarships in 1971–72 for graduate work in vacuum science and technology, vacuum metallurgy, surface physics, thin films and related areas. Each is worth up to $4000, depending on need. Applications are available from the American Vacuum Society, 335 East 45 Street, New York, NY 10017. Deadline is 1 April; selections will be announced by May.

Three new members have joined the Committee on Physics and Society (COMPAS) of the American Institute of Physics. They are Thomas Kirk of Harvard University, Philip M. Platzman of Bell Telephone Laboratories and Daniel Alpert of the University of Illinois.

NSF has awarded a total of $276 000 to 21 scientific societies to support visits by leading scientists to junior colleges, colleges, and small universities in the 1970–71 academic year. The largest grant, $31 000, went to the American Institute of Physics.

Mosaic, "a source of information for the scientific and educational communities served by the National Science Foundation," is a new quarterly published by NSF and available from the Government Printing Office for $2.50 per year.

PhD Scientists and Engineers in Private Industry 1968–80, a Labor Department study available from the Government Printing Office, puts total 1968 PhD employment in industry at 35 800, including 19 500 physical scientists. For 1980 the projected total is 55 000, with 29 500 physical scientists.

The University of British Columbia's newly formed Interdepartmental Institute of Astronomy and Space Science has received $539 000 from the National Research Council of Canada to start a new research program in astronomy and astrophysics.

Gustavus Adolphus College, Minot State College, University of Tulsa and Old Dominion University have been awarded a total of $822 000 from NSF's College Science Improvement Programs to strengthen undergraduate science education.

Hadron, Inc. of Westbury, New York has acquired the TRG laser department and electro-optics products of Control Data Corporation's Melville Space and Defense Systems Division. Hadron now provides a wide range of solid-state laser devices.

Zygo Corp, a new applied-science and technology enterprise, is planning to link the technical spin-off from basic research at Wesleyan University with the industrial capabilities of Canon Inc, a Japanese-based firm. Paul F. Forman, former director of optical science and engineering for Perkin-Elmer Corp, is president and chairman of the board.

European groups join forces to design 3.6-meter telescope

Thanks to an agreement recently signed by CERN and the European Southern Observatory, ESO's new 3.6-meter telescope will be designed and constructed at the CERN laboratory near Geneva.

An intergovernmental organization of six European countries (Belgium, Denmark, France, West Germany, the Netherlands and Sweden), ESO exists to establish a center for optical astronomy in the southern hemisphere. It already has three telescopes on its site at la Silla in Chile, 500 km north of Santiago.

Under the agreement between the two international organizations, an ESO Division of some 30–40 astronomers and engineers will be set up at CERN under the direction of S. Laustsen of ESO. The new division will be autonomous and will have to pay its own way, but it will be able to draw on CERN's support services and experience in the design and construction of large and expensive equipment. The 3.6-meter telescope, which will be ESO's main instrument at la Silla, is due to be completed in 1975 or 1976.

NNCSC uses computer for data compilation

One of the four major data centers for nuclear neutron data recently released its first computer-produced compilation, "Angular Distributions in Neutron-Induced Reactions." Major advantages